

REMARKS

Status of the Claims

Claims 1 and 3-27 are pending in this application.

Claims 1 and 3-27 are rejected.

Claims 1, 7-10, 12-13, and 15-23 have been amended. Support for these amendments can be found throughout the specification, claims, and drawings, as originally filed.

Claim Objections

The Office Action states that claim 1 was objected to because “an ‘LED’ defined with a conducting element, which is considered a misnomer, whereby one ordinarily skilled in the art would refer to an ‘LED’ as a diode with a protective dome as shown in applicant’s figures.” Applicant has amended claim 1 to define an “LED” and “light-conducting element” as separate elements.

The Office Action objected claim 6 because of the use of the term “its.” Claim 6 has been amended to delete “its” and to add in pertinent part “optics located on a reflector surface.”

The Office Action objected claim 14 because of the use of the pronoun “their.” Claim 14 has been amended to state in pertinent part “of ~~their~~ the LEDs of each said reflection part.”

The Office Action objected to claims 18 and 22 because of a typographical error, “light conducting element” was not hyphenated. This has been changed to “light-directing element.”

Applicant requests entry of the above claim amendments and reconsideration of the objections.

Rejection of Claims 15-23 Under 35 U.S.C. § 112

Claims 15-23 were rejected under 35 U.S.C. § 112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Office Action indicated that the terms “annular reflector” and “light-conducting element” need to be defined more consistently throughout the application. The Office Action stated that Applicant has interchangeably defined an “annular reflector” and “light-conducting element.” Claims 19-20 were rejected because the claimed apparatus could not be distinguished with respect to which component the light beam strikes first and remains indefinite in structure.

With regard to the rejection of claims 15-23 Applicant believes this rejection has been obviated by Amendment to the claims and specification. Claims 7-10, 12, 13, and 15-23 have been amended to include a “light-directing element,” which replaces the term “light-conducting element.” The specification has been amended to support the claim amendments. Applicant believes that no new matter has been added.

Claims 19-20 were also rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 19 and 20 are dependent upon Claim 18. Claims 18-20 have been amended to include a “light-directing element” instead of a “light-conducting element.” Applicant has also made amendments to the specification (discussed below) that clarify and define the structures presented in the claims. As such, Applicant requests removal of the rejection of claims 19 and 20.

Applicant has made several amendments to the specification in order to resolve the issues raised in the 35 USC § 112 rejection.

The Office Action indicated that the terms “annular reflector” and “light-conducting element” need to be defined more consistently throughout the application. The Office Action stated that Applicant has interchangeably defined an “annular reflector” and “light-conducting element.” The specification has been amended to distinguish between a “light-conducting element” and a “light-directing element”. Paragraphs 18-23, 25-27, and 29-32 all have been amended to no longer use the term “light-conducting element” interchangeably with two different components of the present invention. The term “light-conducting element” now refers to a different component of the present invention than “light-directing element.”

Applicant respectfully requests the removal of the rejection under 35 USC §112.

Rejection of Claims 1 and 3-6 Under 35 U.S.C. § 102(b)

Claims 1 and 3-6 of the present application were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,628,422 issued to Ewald (hereafter Ewald). The Office Action indicated that Ewald discloses:

A lamp including: a housing [Figure 2: (8)] in which at least one light source [Figure 1: (1)] is arranged, wherein the at least one light source in an LED emitting light lateral from the LED; and at least on[e] reflection part [Figure 1: (5)] associated with the light source, wherein the at least one reflection part adjoins and surrounds the LED in the same plane and has a height that is less than or equal to the LED.

The Office Action also stated that the Ewald reference discloses “the reflection part including an annular reflector [Figures 1-2: (5)]” in claim 3, “the reflector including a parabolic configuration [Figure 1: (5)]” in claim 4, “the LED [Figure

1: (1)] being arranged at the focus of the reflector [Figure 1: (5)]' in claim 5, and "the reflector being provided with optics [Figure 1: (4)] at a surface of said reflector" in claim 6. Applicant now respectfully traverses the rejection of claim 1 and maintains that Ewald does not anticipate each and every element of claim 1.

Claim 1 has been amended to recite in pertinent part "a light-conducting element having a double-cone shape, which surrounds said LED, causing light emitting from said LED to be emitted in a lateral direction." The Ewald reference does not disclose this element of the amended claim. The Ewald reference discloses a "light-emitting diode which is positioned in a holder." Col. 2, Lines 26-27. "The holder is intended to be mounted for instance at the rear of cars" as described in one embodiment. Col. 3, Lines 23-24. Another embodiment disclosed in the Ewald reference discloses how a plurality of LED lights are used in a conventional sign, where the "conventional sign carries the text formed by light-emitting diodes." Col. 3, Lines 36-37. The Ewald reference does not disclose a light-conducting element surrounding the LED having a double-cone shape used for causing the light emitted from the LED to be directed laterally away from the LED.

Furthermore, the specification and the drawings of the Ewald reference do not teach or suggest a light-conducting element having a double-cone shape. To further support this argument Applicant submits the attached declaration of Mr. Otto Miller. Mr. Miller's Declaration indicates that the present invention would not be rendered obvious by the Ewald patent because Ewald does not teach or suggest an LED with a double cone shape. Declaration ¶ 10. Furthermore Ewald is directed to an LED that is used in an illumination display and that would not be suitable for a double cone LED. Declaration ¶ 10. Finally the Mr. Miller's Declaration specifically states that "[o]ne of ordinary skill in the art at the time my invention was filed would not have be motivated to modify the '422 [Ewald] patent or combine the invention in the '422 [Ewald] patent with

the '998 [West] patent or the '154 [Desai] patent for the purpose of rendering Claim 1 of my invention obvious." Declaration ¶ 11. Therefore, in addition to failing to anticipate each of the above claims, it would also not be obvious to one of ordinary skill in the art to render the claims of the present invention obvious by virtue of the Ewald patent.

With regard to the rejection of claims 3-6, Applicant wishes to point out that claims 3-6 are dependent upon claim 1. Thus claims 3-6 when taken in combination with claim 1 are likewise allowable. Applicant respectfully requests the removal of the rejections for claims 3-6.

Rejection of Claims 1, 7-18, 21-23 and 26-27 Under 35 U.S.C. § 103(a)

The Office Action indicated that claims 1, 7-18, 21-23 and 26-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,598,998 to West et al. (hereafter West) in view of U.S. Patent No. 6,773,154 to Desai (hereafter Desai). In order for a proposed combination of references to be relied upon, a person having ordinary skill in the art at the time of the invention must have been motivated to combine the references based upon the teachings of those references.

With regard to claim 1, West discloses a lamp including:

at least one light source [Figure 12: (40)], wherein said light source is an LED package emitting light laterally; and at least one reflection part [Figure 12: (102)] associated with the light source, wherein the at least one reflection part adjoins and surrounds the LED package in the same plane and has a height that is less than or equal to the LED package.

The Office Action also states that the Desai reference "teaches a laterally emitting LED lamp [Figure 1: (110)] that is arranged within a housing [Figure 1: between (109a) and (109b)]," and that "[i]t would have been obvious to one ordinarily skilled in the art at the time of the invention to modify the lamp of West to incorporate the housing

of Desai in order to facilitate support, protection, and easy installation [i.e., within an automobile] for the lamp.”

Submitted with this Response to Office Action is the declaration of Otto Miller who is one of the inventors listed on the application. The Declaration provides first-hand evidence that the combination of references presented in the Office Action would not have been obvious to one of ordinary skill at the time of the invention.

Claim 1 of the present invention teaches or suggest at least one reflection part adjoining and surrounding the LED package in the same plane and having a height that is less than or equal to the LED package. West does not teach this limitation. Mr. Miller's Declaration describes how West discloses a side emitting LED package having a longitudinal package axis, an LED package base, and a lens. Declaration ¶¶ 7. The Declaration also indicates that “[t]he ‘998 [West] patent describes how the LED emits light perpendicularly, and how a shallow, large area reflector can be used in combination with a side-emitting LED package to emit light over a broader area. Declaration ¶¶ 7. In Figure 12, West shows an LED 144 having a reflector 102 having a height greater than the LED. None of the evidence submitted in the Declaration gives any indication that West teaches or suggests how at least one reflection part adjoins and surrounds the LED in the same plane having a height less than or equal to that of the LED.

Desai does not teach the limitation of how at least one reflection part adjoins and surrounds the LED. Desai teaches a “circuit board assembly 120 with contacts 122, a resistor 124, and terminals is mounted within the back plate 118.” Col. 3, Lines 63-65. “The back plate 118 assembly..., the circuit board 120, and the stud bolt 114, is then assembled to the reflector 106 by screws 132.” Col. 4, Lines 41-45. Desai does not teach how a reflector is adjoined to the LED. Desai teaches how a reflector is adjoined to a back

plate through the use of a screw. In support of this argument the attached declaration explicitly states that Desai teaches “a reflective surface that is greater than or equal to the height of the LED. Figure 1, Col. 3, Line 39” Declaration ¶ 8. The declaration also notes that the “purpose of my invention is to provide compact LED, where the overall height of the reflective surface is equal to or less than the height of the LED. Declaration ¶ 8.

The attached declaration is evidence that a person having ordinary skill in the art would not have been motivated to combine West and Desai to arrive at the claimed invention. The declaration further concludes that:

One of ordinary skill in the art at the time my invention was filed would not have been motivated to modify the [West] patent or the [Desai] patent to include a reflective surface having a height the less than or equal to the height of the LED.

Declaration ¶ 9. As presented above, a person having ordinary skill in the art would not be motivated to combine the references based on their knowledge. Therefore, the references must motivate or suggest the combination of references. The Miller Declaration provides evidence that this combination of references was not obvious at the time of the invention. For all of the above reasons, Applicant maintains that the rejection of independent claim 1 should be removed since the rejection set forth in the Office Action does not render the inventive combination of elements of independent claim 1 obvious in view of the West and Desai patents.

Claims 7-18, 21-23 and 26-27 are not obvious under the proposed combination of West and Desai since claims 7-18, 21-23 and 26-27 incorporate all of the limitations of claim 1. Therefore, Applicant respectfully requests the removal of the rejection of claims 7-18, 21-23 and 26-27 in view of the combination of West and Desai.

CONCLUSION


It is respectfully submitted that in view of the above amendments and remarks the claims 1 and 3-27, as presented, are patentably distinguishable because the cited patents, whether taken alone or in combination, do not teach, suggest or render obvious, the present invention. Therefore, Applicants submit that the pending claims are properly allowable, which allowance is respectfully requested.

The Examiner is invited to telephone the Applicants' undersigned attorney at (248) 364-4300 if any unresolved matters remain.

Respectfully submitted,

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